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P228 -MIBI or not MIBI? That is the question – cardiac considerations for potential kidney transplant recipients

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Problems: Within current clinical practice, issues remain in the assessment of potential kidney transplant recipients prior to listing. As part of pre-operative cardiac testing, patients are required to undergo myocardial perfusion scanning (MIBI), then if positive, additional coronary angiography is usually performed - frequently without significant findings. Additionally, most patients are established on renal replacement therapy prior to coronary angiograms, due to fear of contrast-induced AKI (CI-AKI), yet this removes their chances of pre-emptive transplantation completely.

Aims: To assess the accuracy and utility of MIBI scanning in detecting coronary abnormalities during pre-operative assessment, and incidence of contrast-induced acute kidney injury. The waiting times between transplant referral and listing, comparing pre-dialysis and post-dialysis angiography sub-groups, were also explored.

Methods: Data was collected for a cohort of potential kidney transplant recipients from April 2016 to March 2017, using the trust electronic patient record system and transplant team records. Dichotomous data of MIBI outcomes (negative or positive) and coronary angiogram results (abnormal or normal) were collated and analysed. Incidence of CI-AKI was assessed from laboratory data. Date of referral; cardiac tests, cardiology review if referred and the date of enlistment were all recorded.

Findings: 138 patients in total (eGFR ≤30) were assessed for transplantation during the study period, with 119 continuing workup. 77 individuals were referred for a MIBI scan, with the remaining 42 not requiring myocardial perfusion testing due to satisfactory ECG/chest x-ray results and absence of cardiovascular disease. 20 of 77 patients who underwent MIBIs also underwent coronary angiography. The occurrence of a false positive MIBI (abnormal MIBI scan resulting in an unremarkable coronary angiogram) was 62.3% (12 patients) and the incidence of CI-AKI was reported at 11.1% (1 patient), with recovery to baseline creatinine seen at one-week post procedure. The average waiting time between referral and listing, for pre-dialysis (410 days) and post dialysis (351 days) patients, suggested that awaiting coronary angiography until on dialysis did not extend listing time. However, this is without assessment for confounding factors, as the cohorts are likely to represent different disease progression and phenotypes

Conclusion: The utility of MIBI testing is low in our patient cohort and may introduce unnecessary delays. The risk of acute kidney injury post coronary angiogram is minimal in this study such that prospective transplant recipients should potentially undertake all necessary contrast studies prior to being established on dialysis. Many patients receive guidance to await contrast studies until established on dialysis thus reducing the chance of pre-emptive transplantation to zero, without assessment of the risks associated with dialysis access and treatment itself. Prospective studies should be more informative, sharing this knowledge and perceived risks with our patients to improve their chances of pre-emptive transplantation.